

Serial No.: 09/965,514

Attorney's Docket No.:10559/526001/P12446

Amendment to the Claims:

This listing of claims replaces all prior versions, and listings, of claims in the application:

1. (currently amended) A data routing apparatus comprising:
a network interface configurable to receive data packets;
a processor coupled with the network interface; and
a memory coupled with the processor, the memory being configured to instruct the processor to load a routing data structure configured to store information ~~selectively~~ indicating ~~either a next hop address for a received data packet or that the received data packet is to be dropped if the received data packet includes a predetermined non-forwarding destination address.~~

2. (original) The apparatus of claim 1, wherein the routing data structure comprises one or more routing tables.

3. (cancelled)

4. (original) The apparatus of claim 2, wherein the information indicating that the received data packet is to be dropped comprises a pointer to a route entry containing a drop flag.

5. (original) The apparatus of claim 1, wherein the stored information comprises a portion of an address field.

6. (original) The apparatus of claim 5, wherein the address field portion comprises a network identifier.

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7. (original) The apparatus of claim 1, wherein the data packet is an Internet Protocol packet and the stored information comprises a deprecated directed broadcast address.

8. (currently amended) A method of configuring a data routing device comprising storing information in a routing data structure, wherein the information ~~selectively~~ indicates that a packet having a predetermined non-forwarding destination address is to be ~~routed or~~ dropped.

9. (original) The method of claim 8, wherein the routing data structure comprises one or more routing tables.

10. (original) The method of claim 9, wherein the information is a pointer to a routing record containing a drop-flag.

11. (original) The method of claim 8, wherein a format for the destination address is defined by Internet Protocol version four.

12. (original) The method of claim 11, wherein the destination address comprises a deprecated directed broadcast address.

13. (currently amended) A method comprising providing a capability for a machine to perform operations including:

comparing a destination address of a packet with routing information stored in a routing data structure, the routing information indicating that the packet either is to be routed or dropped; and

selectively routing the packet based on the routing

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information stored in the routing data structure, said selectively routing including dropping the packet if the destination address comprises a predetermined non-forwarding address.

14. (original) The method of claim 13, wherein providing a capability for a machine to perform operations comprises providing one or more software processes capable of performing the operations on a computer system.

15. (original) The method of claim 13, wherein a format for the destination address is defined by Internet Protocol version four.

16. (original) The method of claim 15, wherein the destination address comprises a deprecated directed broadcast address.

17. (original) The method of claim 13, wherein the operations further include:

counting a dropped packet; and
storing a source address and the destination address for the dropped packet.

18. (currently amended) A packet routing system comprising:

memory means for storing a data structure comprising a destination address routing table having entries, wherein at least one entry contains an indication that a packet having a predetermined non-forwarding destination address that resolves to the least one entry is to be dropped; and
processing means for receiving a packet having a

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destination address from a first network, for checking the destination address against the destination address routing table, and for transmitting the received packet to a second network only if the received packet does not resolve to the at least one entry.

19. (original) The system of claim 18, wherein the destination address routing table comprises a set of tables.

20. (original) The system of claim 19, wherein the processing means checks the destination address four bits at a time.

21. (original) The system of claim 20, wherein the processing means transmits using Internet Protocol.

22. (original) The system of claim 21, wherein the at least one entry corresponds to a deprecated directed broadcast address.

23. (currently amended) Machine-readable instructions, embodied in a machine-readable medium or a propagated signal, for causing a machine to perform operations comprising loading one or more routing tables with destination addresses and information selectively indicating either a next-hop address for a packet or that the packet is to be dropped, wherein at least one of the destination addresses comprises a predetermined non-forwarding address for which the information indicates the packet is to be dropped.

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24. (original) The instructions of claim 23, wherein the information comprises:

a pointer to a route entry to indicate a next-hop address;
and

a value of negative one to indicate the packet is to be dropped.

25. (original) The instructions of claim 23, wherein the destination address comprises a network identifier.

26. (original) The instructions of claim 25, wherein the network identifier identifies a subnet.

27. (original) The instructions of claim 26, wherein the packet is an Internet Protocol packet.

28. (original) The instructions of claim 27, wherein the destination address comprises a deprecated directed broadcast address.

29. (original) The instructions of claim 28, further comprising loading the one or more routing tables with a plurality of deprecated directed broadcast addresses, one for each of a plurality of subnets, and information indicating that a packet having one of the plurality of deprecated directed broadcast addresses as its destination is to be dropped.